kemutec
schenck process group

Food Powder Processing Solutions



» Sifting and Screening

» Milling and Grinding

» Mixing and Blending



YOUR WORLDWIDE FOOD PROCESSING PARTNER

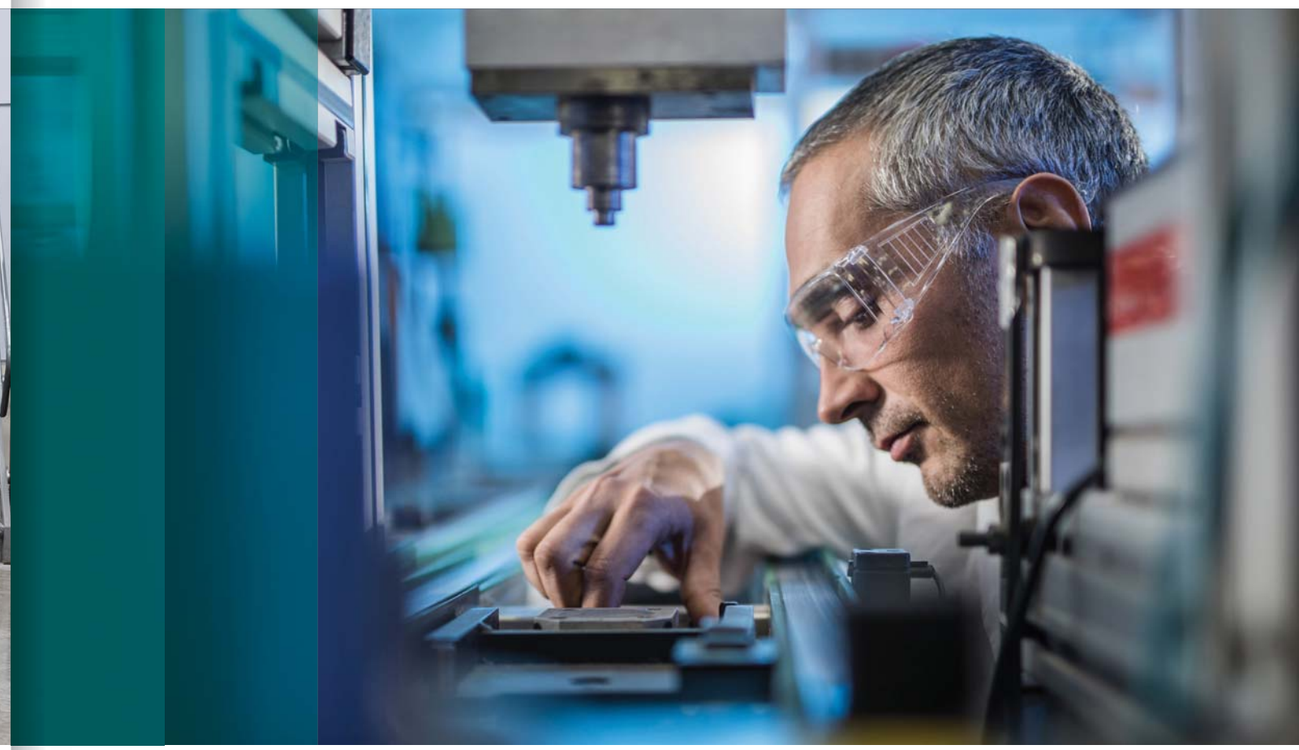
Our teams at Kemutec engineer and customize, high quality process solutions for powders used in the food industries, as well as chemicals and pharmaceuticals. Kemutec proudly became part of the Schenck Process Group, a global manufacturer of bulk material handling products and systems, in 2018.

Kemutec solutions include equipment for Size Classification and Screening, Size Reduction, as well as Mixing and Blending technologies. Well-known and trusted brands from the Kemutec range, include KEK, Gardner and PPS. These brands represent decades of powder processing knowledge and on-going innovation.

KEY FOOD APPLICATIONS FOR KEMUTEC INCLUDES:

» Flour sifting
» Sugar grinding
» Dairy powder densification
» Cocoa mixing
» Cookie rework
» Starch densification
» Vital wheat gluten milling
» Potato flake milling
» Bakery pre-mixes
» Truck unloading intake screening

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HOW WE ADD EXTRA VALUE

MATERIAL TESTING

We offer material and process testing in a number of global Technology Centres. Through years of in-depth analysis, we have gathered a significant amount of knowledge, which helps us optimize processes and customize the design of all Kemutec solutions, to suit our client's application and desired outcome

All our test centres are equipped to allow for remote involvement with our customers, such as live streaming, or you are welcome to visit and witness the testing process yourself. Videoing of all trials is also available. Read more >>

INTEGRATE HIGH-QUALITY SCHENCK PROCESS SYSTEMS

Supporting a variety of bulk-handling industries:

» Bulk bag loading and unloading
» Batch and continuous feeders
» Weighing solutions
» Continuous dense and dilute phase conveyors
» Mechanical conveyors
» Vibrating screens with condition monitoring
» Plant and logistical control systems
» Truck and train loading

To book a visit or test, email **sales@kemutec.com**

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FOOD PROCESSING SOLUTIONS

Whether you intend to process powder, or to produce a powder-like form, our solutions enable:

SCREENING & SIZE CLASSIFICATION

SIZE REDUCTION

MIXING AND BLENDING

SCREENING AND SIZE CLASSIFICATION

The **KEK** Centrifugal Sifter is widely known as a high capacity powder sifter; providing unparalleled performance for classifying the size of material, as well as screening it for contaminants. Read more >>

SIZE REDUCTION

Our **KEK** and **PPS** brands offer a wide range of milling technologies for various materials.

Kibbler – Heavy duty, coarse grinding and lump breaking mill, with controlled particle size. Easy to clean, with simple maintenance. Read more >>

Cone Mill – Grinds material to achieve a consistent size for sifting. It is very versatile and will process wet or dry product. Read more >>

Universal Mill – High speed, one-pass fine grinding, combined with interchangeable grinding media. Read more >>

Air Classifier Mill – Ultra-fine grinding with controlled particle size distribution and high temperature control. Read more >>

MIXING AND BLENDING

The renowned **Gardner** mixing and blending machines are well known for their longevity and outstanding performance.

Ribbon Mixer – for gentle blending, to high intensity batch or continuous mixing, with ingredients dispersed homogeneously. Read more >>

Plough Mixer – for high speed, high shear mixing. It is ideally suited for breaking up lumps & agglomerates. Read more >>

Double Cone Blender – offers gentle tumbling, for free-flowing powders & granules, in addition to delicate products, or to mix heavy abrasives. Read more >>

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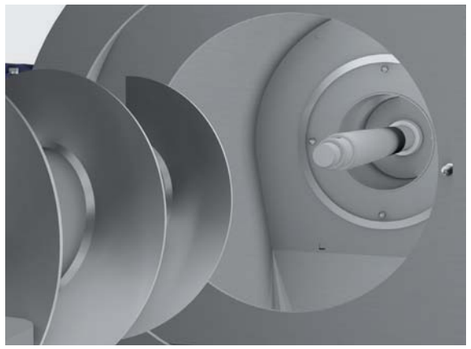


KEK CENTRIFUGAL SIFTER

The KEK Centrifugal Sifter is recognized as the leading high capacity sifting and screening solution for food industries globally. KEK Sifters classify the size of material by sifting and separating out material that isn't to the required size. This screening process also removes unwanted material and de-risks the process from accepting contaminants such as plasters, insects, metals etc.

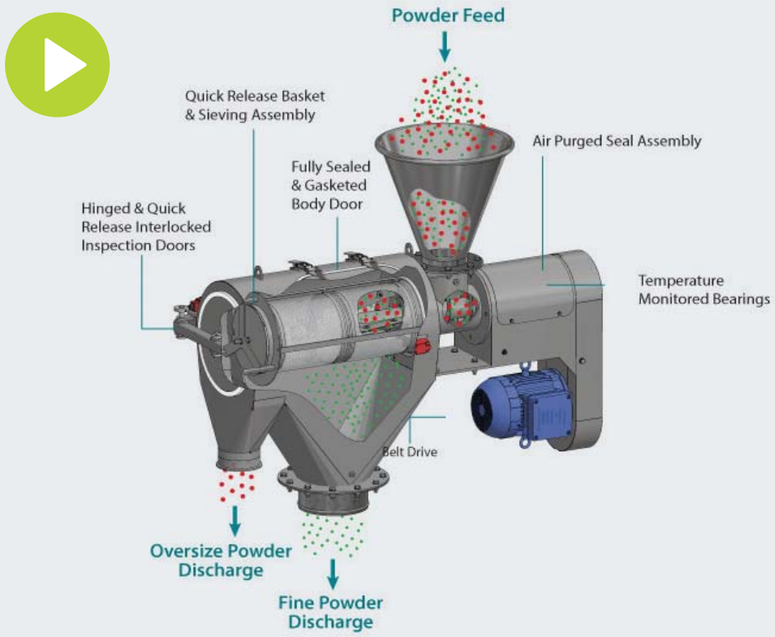
KEY BENEFITS:

- » High-efficiency, speedy performance
- » Quick, hygienic and easy to clean
- » Cantilever shaft ensures no oversize bearing or seal
- » 30 second screen changes
- » Easy inspection for maintenance, due to oversized end door
- » Operator friendly – no tools typically required for stripping & cleaning



Just 30 second screen changes

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KEK CENTRIFUGAL SIFTER

PRINCIPLE PROCESSES:

- » Product security and policing / removal of extraneous material
- » Scalping / small percentage removal of oversize product
- » Classification / separation by size
- » De-dusting / removal of fines
- » Conditioning / provides uniform density for easy flow
- » De-agglomeration / breaking of soft lumps and agglomerates
- » Liquid straining / removal of excess liquid from solids products

TYPICAL FOOD APPLICATIONS:

- » Flour sifting
- » Ingredient check sieving
- » Dairy powder sieving
- » Bakery mix de-lumping and final dressing
- » Recovery of products from packaging
- » Truck bulk ingredient unloading safety sifting
- » Final check safety sifting before packaging
- » De-agglomeration of raisins and other dried fruits

Featuring a specialised 'Cantilever' design, the KEK Sifter offers users **unprecedented, high standards in hygiene**. This is achieved through the machine's easy access and rapid screen change functionality, **averaging at just 30 seconds**.

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INLINE PNEUMATIC CONVEYING SYSTEMS

KEK CENTRIFUGAL SIFTER

RANGE INFORMATION:

» Available in 7 sizes to suit a wide variety of materials
» Models that can process from a few kilograms per hour, to over 90 tonnes
» Available with nylon, stainless steel woven wire and wedge wire screens
» Inline pneumatic conveying models

SPECIAL DESIGNS:

» In-line vacuum conveying sifters
» In-line positive pressure pneumatic conveying sifters
» 'Insertable' mini sifter
» Extruder protection

OPTIONAL DESIGN FEATURES:

» Drive arrangement
» Hazardous area electrics
» Pressure rated design
» Gas inerting & CIP capability
» Special metals and alloys for construction
» High containment machines
» Screen protection or trash traps
» Dust-tight connections



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MILLS

To support a wide-variety of milling applications and particle sizes, Kemutec Mills include technologies and customized features that makes size reduction efficient, hygienic and safe.

WE KNOW YOUR MATERIAL

Practical examples of particle size range:

» 150 mm down to 5 mm lumps & agglomerates created in feed materials - granulated sugar and soap noodles
» 5 mm down to 1 mm granules & small agglomerates - biscuit rework
» 1000 µ down to 100 µ coarse powders - de-agglomerates
» 100 µ down to 25 µ fine powders - icing sugar and flour
» 25 µ down to 0 µ ultra-fine powders - sodium bicarb, starch

APPLICATIONS:

» Rework and regrind
» Lump breaking
» Bulk power densification
» Wet granulation



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Coarse grinding and lump breaking
Particle size range
150 mm to 2-3 mm

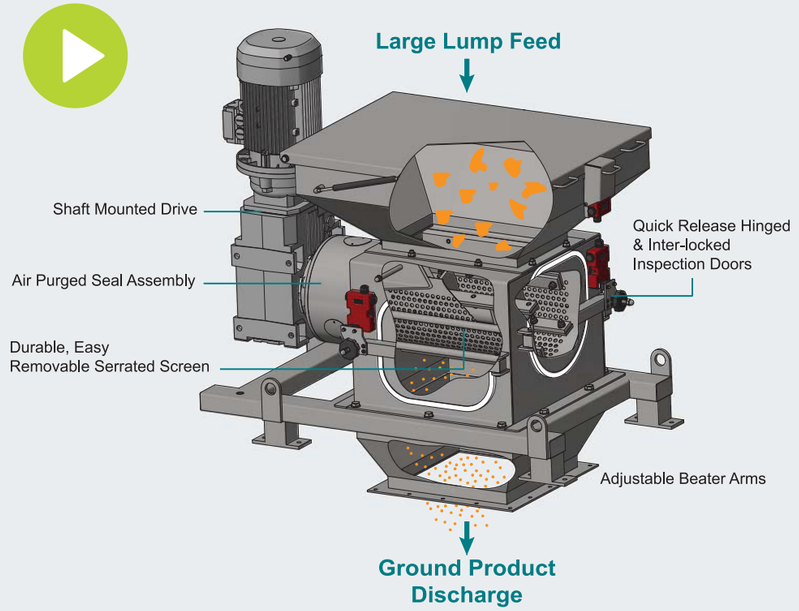
KEK KIBBLER

Strong and robust KEK Kibbler's are designed to grind large lumps of up to 6" (150 mm) and reduce them to 1/8" (2-3 mm) in preparation for further processing. They typically work in conjunction with other KEK mills or as stand-alone mills and are available with a cantilever shaft, to maximize hygiene.

The size reduction process takes place through a combination of impact, crushing, cutting and abrasion. While the slow speed, heavy-duty beater, sweeps product against the contoured grinding screen.



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KEK KIBBLER

KEY BENEFITS:

- » Strong and robust construction
- » Cantilever shaft grinding beaters available, for hygienic processing
- » Cantilever shaft also means no end-bearings
- » Hinged end door for easy access cleaning
- » Screen changes are quick & simple
- » Minimal 'fines' generation
- » Minimal heat generation
- » Control of milled particle size through screen selection
- » Quiet operation

TYPICAL FOOD APPLICATIONS:

- » De-lumping food ingredients, such as sugar, citric acid and salt
- » Reclaiming boiled sweets & candies
- » Reclaiming biscuits & cookies
- » Chocolate grinding pre-melting
- » Size reducing of soap noodles

RANGE INFORMATION:

- » Available in 4 sizes
- » Grinds from 150 mm to 2-3 mm
- » Screens range from 30 mm to 3 mm
- » 10 bar safety rating
- » Wide range of grinding media and interchangeable beaters

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Versatile milling capabilities

Particle size range from D50 – 500 µ to < 250 µ

KEK CONE MILL

For reliable & hygienic size reduction, Kemutec's KEK Cone Mill includes the widest range available, from lab through to bulk production.

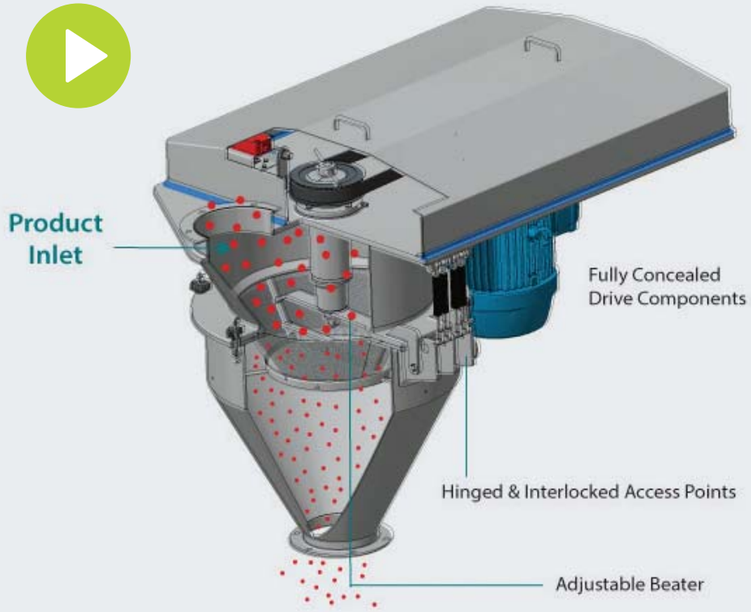
KEK Cone Mills are a popular choice across the food industry due to their ability to mill and gently grind a wide variety of materials, at either low or high speed. They are hygienically designed for simple, quick cleaning and particularly suitable for dairy applications and if wanted, CIP-able. The Cone Mill also ensures fines are minimized and effectively mills sticky fats.

KEK Cone Mills can be easily integrated in a vacuum conveying system, for a total cost-efficient solution.

KEY BENEFITS:

- Ability to process a wide variety of materials through variable speed, cone hole shape and size and rotor gap
- High efficiency, low energy consumption; virtually all input is utilized in the size reduction process
- Gentle grinding action, allowing uniform material size distribution with minimal fines
- Low heat generation, which is essential when milling fatty, sticky or heat sensitive products
- Low dust levels, meaning no need for air filtration, reducing costs

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KEK CONE MILL

TYPICAL FOOD APPLICATIONS:

- Crushing & densifying of potato flakes or oat flakes
- Grinding granulated sugar to castor sugar
- Granulating and densification of dairy powders after spray towers or belt dryers
- Granulating before tableting or capsuling, like dextrose
- Reworking of chocolate/creme biscuits and confectionery
- Producing all kind of fractions of breadcrumbs
- Spice mixes / flavours de-lumping / sieving
- Dispersing after mixing with fine additives or liquid injection for quality assurance

RANGE INFORMATION:

- 7 model sizes
- Milling particle size range from D50 – 500 µ to < 250 µ
- Models for under-driven and top-driven operation; removing any limitations with space or the existing set-up and gives maximum infeed of product, so no blockage of the inlet section
- Belt, gearbox and direct motor models available

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High-speed one-pass fine grinding

Particle size range from D50 – 100 µ to < 20 µ

KEK UNIVERSAL MILL

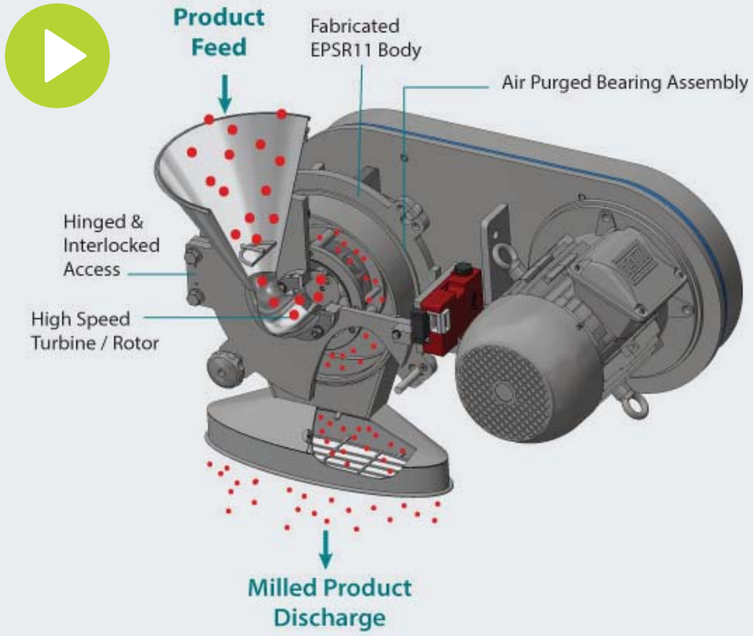
The KEK Universal Mill is designed for high-speed fine grinding, versatility and safety. Available with various interchangeable grinding media, KEK Universal Mills offer unsurpassed high efficiency, one-pass size reduction. Through the intense design of its grinding media, the process ensures a controlled size reduction, to a high degree of fineness, typically grinding with a milled particle size range of D50 of100 µ to 20 µ.

The superior overall design of the Universal Mill allows for versatility of simple integration, as well as easy access for trouble free maintenance and effective cleaning. A full range of models are available to suit a variety of processes and throughput requirements.

KEY BENEFITS:

- » High speed, efficient fine grinding
- » Closed-loop milling for minimal moisture absorption
- » Temperature controlled and cryogenic grinding available, for further reducing particle sizes
- » Interchangeable grinding media for maximum process performance
- » Customized for installation, allowing design flexibility

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KEK UNIVERSAL MILL

TYPICAL FOOD APPLICATIONS:

- » Granulated sugar to icing/powdered
- » Grinding salt rocks to fine table salt
- » Grinding crystalline products generally
- » Granulating citric acid granules
- » Grinding wheat bran
- » Grinding spices such as nutmeg, cinnamon, pepper corns, cumin, onion seeds
- » Grinding rice flour
- » Starch densifying & Bicarb milling



RANGE INFORMATION:

- » Supplied as machine only or complete milling system
- » Extensive range from lab to production
- » Particle size range from D50 – 100 µ to < 20 µ
- » Grinding media options include turbine and screen, pinned disc and rib track

INSTALLATION OPTIONS:

- » Overhead feed system
- » Temperature controller system
- » Remote collection system
- » Closed loop system

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Highly controlled, ultra-fine grinding

Particle size range from D50 – 20 µ to < 5 µ

PPS AIR CLASSIFIER MILL

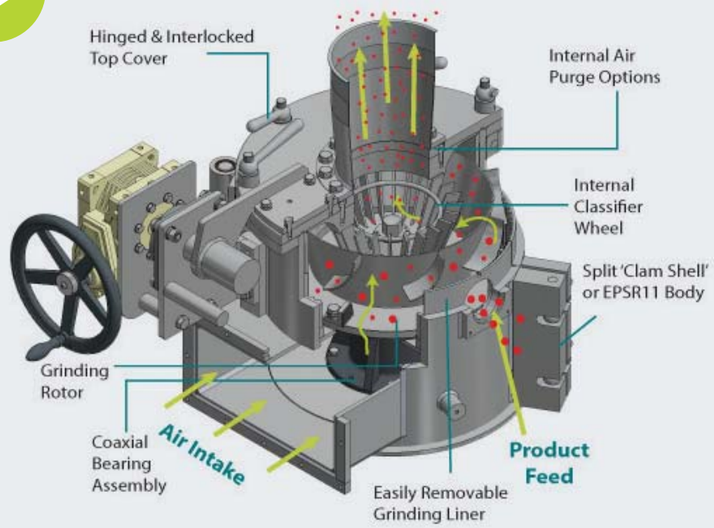
The PPS Air Classifier Mill incorporates an internal air-classifying wheel with an independent drive, enabling precise control over 'particle cut point' selection and infinitely variable grinding. This also allows the powder to safely stay within the mill until it meets to a set particle size. Adjustment of size can be easily made through changing the rotor speed, classifier speed and air flow.

Suitable for batch processing or continuous operation, PPS mills are commonly used where control of grinding temperature and particle size distribution are of primary importance. There are a variety of models available, all of which are simple to clean and maintain through a unique side access design.

KEY BENEFITS:

» Maximum control over tight particle size distribution
» Enclosed variable grinding, to achieve the required fineness and adjust particle size output
» Temperature controlled grinding, for assured safety
» Easy to clean with unique side opening design

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PPS AIR CLASSIFIER MILL

TYPICAL FOOD APPLICATIONS:

» Ultra-fine sugar grinding
» Ultra-fine grinding of starch
» Ultra-fine grinding of vital wheat gluten

RANGE INFORMATION:

» 10 models in size range, from lab through to large production mills
» 5 kw to 400 kw main drives
» Typical milled particle size range down to a D50 of 20 µ to 5 µ
» Integral classifier for a fine powder



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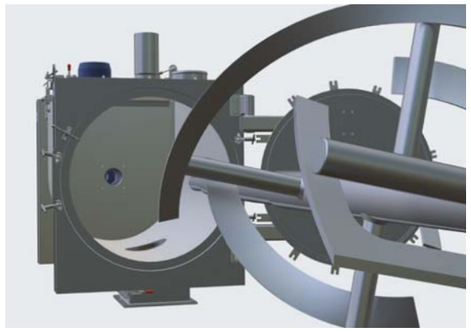


MIXERS & BLENDERS

Kemutec's Gardner Mixers and Blending machines are specially designed with over 160 years of experience built into them; thereby providing an extensive range of long-life solutions for all powder blending applications.

PURPOSE OF MIXING TECHNOLOGIES:

» Dispersing ingredients homogeneously
» Breaking up lumps & agglomerates
» Gently blending fragile material
» Mixing abrasive material
» Carefully combining heat sensitive material



Gardner Ribbon Mixer

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GARDNER RIBBON MIXER

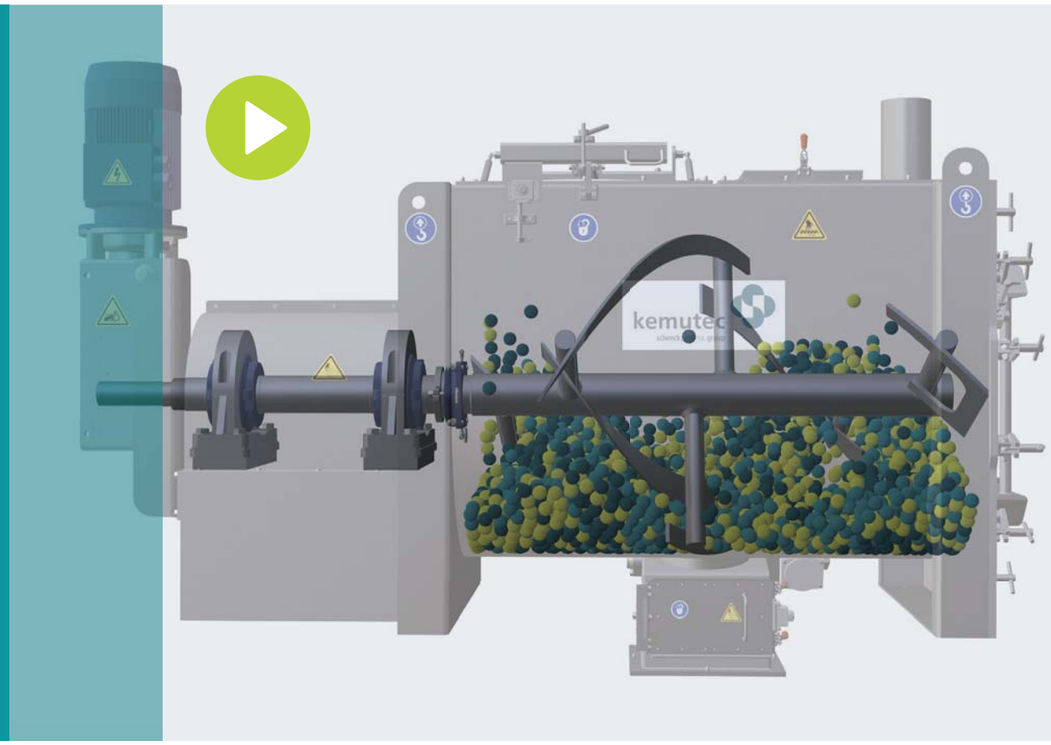
Kemutec Ribbon Mixers are designed for consistent, homogenous batch or continuous blending of powders and granules. Their performance varies from gentle blending, to high intensity mixing and are a very popular choice of mixer, due to the wide range of powders and bulk solids they are capable of processing.

To ensure a mixed consistency and a high level of precision, Ribbon Mixers process free-flowing material within a trough, with a flat top cover, for ease of loading and access. A horizontal agitator moves the material efficiently in a highly-balanced axial and radial flow pattern.

KEY BENEFITS:

» Achieves a homogeneous blend
» Hygienic design through a cantilever shaft, with no end bearings and seal
» Simple maintenance and easy cleaning, through hinged end door
» Quick mixing time in 3-5 minutes
» Versatile design for a variety of materials
» High-efficiency mixing through ribbon agitator

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GARDNER RIBBON MIXER

TYPICAL FOOD APPLICATIONS:

» General dry powder and spice mixing
» Brown and granulated sugar mixing
» Molasses mixing
» Providing liquid addition with powders
» Drying moist or damp powders
» Live storage of sticky powders

ADD ON FEATURES:

» Discharge valves, including Mucon
» Jackets for heating and cooling water, steam and oil
» Pressure and vacuum capable vessels
» Liquid spray
» Mixers on load cells
» CIP

CONTINUOUS OPTIONS:

In a continuous Ribbon Mixer, the formulated ingredients are continuously fed into the machine, typically by a loss-in-weight feeder. The mixing takes place as the material travels through to the discharge point, from where it is continuously discharged.

» Capacity of 50 to 20,000 litres per hour
» Long aspect ratios of 4:1 or more
» Interrupted spiral ribbon agitator
» Adjustable overflow ‘weir-plate’ at discharge
» Total discharge valve fitted to trough
» Large access doors

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GARDNER RIBBON MIXER

BATCH OPTIONS:

Encompassing a horizontal design, batch Ribbon Mixers are designed for rapid and efficient performance. All ingredients are loaded together or in specified sequence. The material is then mixed until a homogenous blend is produced and discharged as one complete mixture.

L SERIES U-TROUGH

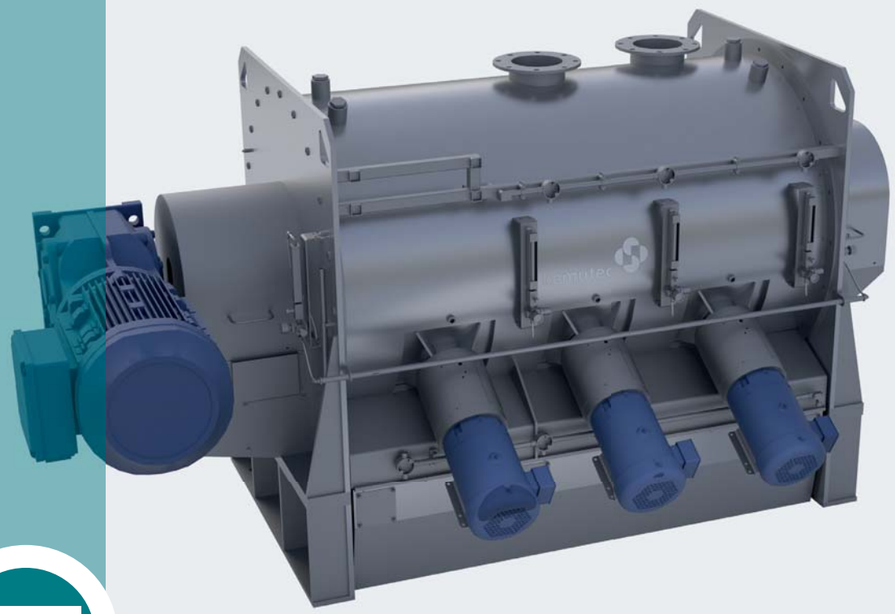
» Small batch applications
» Capacity of 35 to 400 litres
» Full length, hinged lid and all-around access to the outlet, for easy filling and emptying
» Easily removable agitator

HE SERIES U-TROUGH

Minor ingredients are dispersed homogeneously without the need to pre-mix.

» Short mixing times
» High-efficiency ‘double helix’ agitator with only 6 mixing blades
» Large top cover for ease of access
» Ideal for sticky powders

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GARDNER PLOUGH MIXER

Kemutec's Plough Mixers are a high shear cutting, high-speed plough type mixer, with cylindrical short aspect ratio mixing chambers. They are typically used for mixing and breaking agglomerates and lumps. For greater flexibility, Gardner Plough Mixers are capable of achieving extra shear by adding side intensifiers. Capacities range from 35 to 10,000 litres.

KEY BENEFITS:

» High shear, ideal for breaking up lumps and agglomerates
» Quick, efficient mixing time in 1-2 min
» Optional side intensifiers; extra shear
» Large door discharge

TYPICAL FOOD APPLICATIONS:

» Bakery pre-mixes containing fat, flour, sugar
» Liquid addition to powders, especially where agglomerates may form
» Oil addition to powders
» Salts and spices with oleoresin addition

ADD ON FEATURES:

» Alternative tough shapes
» Discharge valves, including Mucon
» Jackets for heating and cooling water, steam, oil
» Pressure and vacuum capable vessels
» Liquid spray and CIP
» Mixers on load cells

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GARDNER DOUBLE CONE BLENDER

Cone Blenders are used to gently blend delicate and fragile products, as well as to mix heavy and abrasive material.

The performance of the Gardner Blender is enhanced by its unique multi-shear disperser plates. These are designed to deflect blended contents, regardless of the particle size distribution, shape or density; to produce a homogeneous mixture.

TYPICAL FOOD APPLICATIONS:

» Tea and leaf type products
» Coffee bean & ground beans
» Semolina flour
» Seeds & Starch
» Chocolate flakes/powder & powdered milk
» Dehydrated soups & creams

KEY BENEFITS:

» Achieves a homogeneous blend
» Versatility; blends fragile to abrasive material, avoiding wear or damage
» Easy-clean, with total discharge functionality
» Hygienic design with no internal seals or bearings
» Simple maintenance through smooth interior and access panel
» Fast cycle times for quick processing
» Uses less energy than agitator mixers

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GARDNER VERTICAL MIXER

Vertical Mixers provide fast and accurate mixing and are particularly suited to the mixing of free-flowing material, as well as heat sensitive or fragile products. Available from 100 to 25,000 litre capacities, Gardner Vertical Mixers are used for where small trace elements are mixed in large quantities of carrier or base material.

The Vertical Mixer has been designed for easy access and cleaning, whilst through gentle tumbling actions, it ensures a low generation of energy consumption.

KEY BENEFITS:

» Easy, quick access to clean
» Low consumption of energy
» Minimal heat generation; ideal for heat sensitive material

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TECHNOLOGY CENTRE

Our Kemutec team are very proud to have invested in a new futuristic material and process testing centre, based at our UK head office in Manchester.

The Technology Centre features not just Kemutec processing equipment for Food, Pharmaceuticals and Chemicals, but is also supported by an array of Schenck Process handling systems, including lean phase conveying, feeders and bulk-bag solutions.

For more information on any of the above, email sales@kemutec.com

WHAT THE CENTRE AND OUR EXPERTS OFFER:

» Dedicated material and process testing
» Decades of experience and results, that help fully optimize our recommendations
» Remote material testing, that digitally involves the client in the process
» Easy access to visit the centre, with close proximity to Manchester airport
» Meetings rooms available for visiting clients
» Operation and maintenance training – either digitally or on-site
» Real-time, quick assistance for operators, through arranging live-streaming to help answer questions

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SPARES AND SERVICES

All Kemutec equipment is engineered for long-life performance and are supported by a wide range of spare parts, screening media and components.

All replacement parts are manufactured to the original drawings and exact specifications; making any refurbished unit as robust, efficient and reliable as ever.

KEK CENTRIFUGAL SIFTERS

A well-maintained sieving machine will continue to function efficiently and effectively for many years. It is imperative to employ a regular servicing regime to keep unplanned breakdowns to an absolute minimum.

We stock readily available spare parts for sifters, these include:

» Seals
» Gaskets
» Bearings
» Belts
» Spider couplings
» Shafts
» Brushes
» Wiper blades

SIFTER SCREENS

The sieving screen is the most critical consumable part of a centrifugal sifter and has a direct effect on the efficiency of the machine, as well as the outputted product quality.

We offer a range of high-quality sifter materials for different applications:

» Nylon (carefully handstitched to fit ANY sifter)
» Woven wire
» Wedge wire
» Punched plate



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KEK & PPS MILLS

To maintain the performance of your Mill and support replacement screens, we keep a wide variety of spares in stock.

Spare parts available for mills include:

» Screens
» Pins
» Cutter blocks
» Rotor disc and turbines
» Replacement cones
» Seals and gaskets



GARDNER MIXERS & BLENDERS

Gardner machines are robust, with long-life performance, especially when accurately maintained.

For servicing requirements, we stock the following Gardner parts:

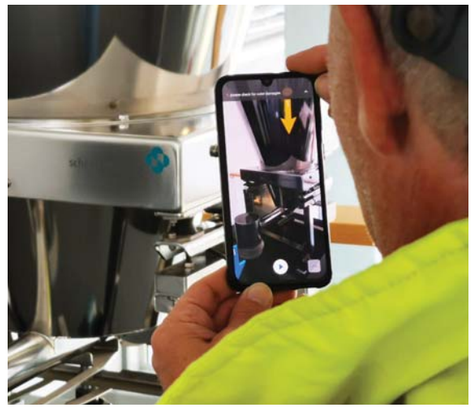
» O-Ring seals
» Gaskets
» Drive belts
» Air sock filter
» Bearings
» High speed cutters
» Gland seals
» Couplings

SERVICES & UPGRADES

You can contact our experienced team for a variety of additional services, including:

» Preventative maintenance annual services
» Metal detection upgrade
» Emergency breakdown call-out
» Repair and refurbishment

For more information on spare parts, consumables or our services, read more here >> or call: +44 (0)1625 412000 or email: sales@kemutec.com



Email: sales@kemutec.com



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Your Partner

Please contact Kemutec where you will be directly connected to an engineering expert.

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